

REMARKS

The applicant respectfully requests reconsideration in view of the amendment and the following remarks. The applicant has resubmitted claim 20 as new claim 25 with the formula (1) being present. The applicant therefore has cancelled claim 20. Claim 25 is identical to claim 20 with the formula (I) being included.

In the Advisory Action, the Examiner stated that for purposes of appeal the applicant's amendment was entered and rejected. The Examiner has considered the applicant's Reply, filed August 1, 2008, and states that it overcomes the 35 USC 112 Rejection of claims 17-19, 21-24, and the 35 USC 103 rejection based on US 5,840,217 (Lupo et al.) and double patenting.

Claims 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 5-8 and 11-16 are rejected under 35 U.S.C. 103(a) as being obvious over Aziz et al., U.S. Patent No. 6,392,339 ("Aziz") in view of Steuber et al (Advanced Materials, vol. 12, no. 2, pp.130-133, 2000) ("Steuber"). The applicant respectfully traverses these rejections.

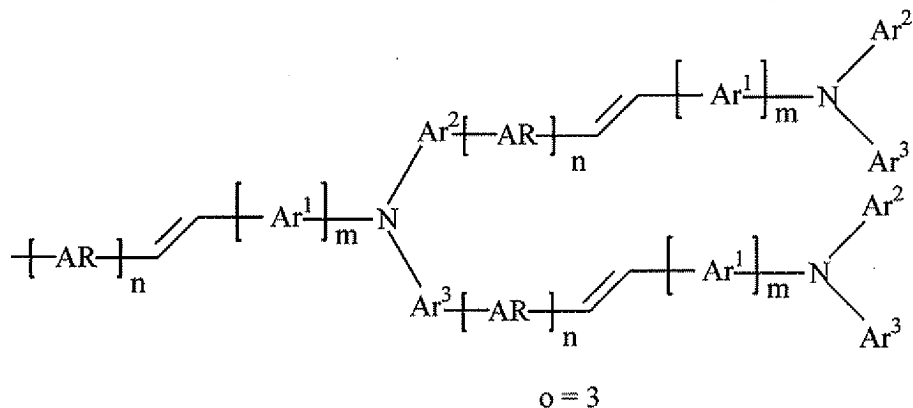
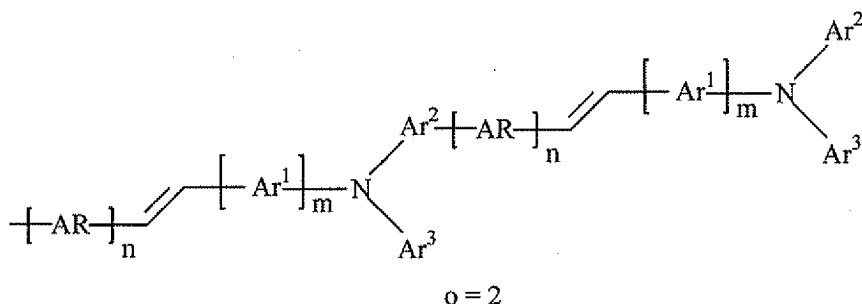
35 U.S.C. § 112, Second Paragraph Rejection

Claims 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 25 is the same scope as claim 20.

The Examiner stated that the applicant's amendment did not address issues concerning claim 20 because it is not interpretable as written. Applicant has added the formula to claim 20

(see newly added claim 25). The Examiner has questioned how “o” can anything other than 1 in claim 20 because there is only one bonding location.

However, in the applicant’s opinion, the Examiner has not interpreted the claim correctly. If the index “o” is 2 or more, this does not mean that there are several units Z linked to the spirobifluorine, an index “o” of 2 or more means that 2 or more units Z are linked to each other. This might e. g. result in the following structures for o = 2 and a = 3:



The meaning of “o” is evident from the definition of “o”, which says that “AR on Ar² or on Ar³ or on both may be bonded in the form of a dendrimer”. Therefore, it is clear that AR is

bonded to Ar^2 or to Ar^3 or to both, Ar^2 as well as Ar^3 , as shown above. The binding in form of a dendrimer is shown above for $o = 3$ where N is the branching point of the dendrimer.

Therefore, claim 20 should be interpretable and is in compliance with 35 USC 112, second paragraph. For the above reasons, this rejection should be withdrawn.

35 U.S.C. § 103 Rejection

Claims 1, 5-8 and 11-16 are rejected under 35 U.S.C. 103(a) as being obvious over in view of Steuber. Aziz discloses an organic light-emitting device, which includes a mixed layer comprising a hole transporting material and an electron transporting material, one of which is an emitter (see the abstract). Aziz discloses triarylamine derivatives as hole transporting material, but does not disclose triarylamine derivatives of spirobifluorene. The inventive effect of the present invention is observed only when a hole conducting spirobifluorene derivative is used in the emitting layer. The combination of a hole conducting spirobifluorene derivate with an emission material as listed in claim 1 leads to a synergistic effect and therefore to a particularly high increase in lifetime and decrease in driving voltage (see page 1, line 31 through 2, line 26 and the examples).

Steuber discloses organic electroluminescent devices comprising spirobifluorene derivatives in the hole transporting layer. Steuber compares the use of simple triarylamine derivatives in the hole transporting layer with the use of spirobifluorene triarylamine derivatives. Steuber concludes that the higher stability of the device comprising the spirobifluorene compound is only due to the higher glass transition temperature of this compound, as the electronic properties correspond to those of the simple triarylamine derivatives.

Steuber does not disclose or suggest that the spirobifluorene triarylamine derivatives might be used in an emitting layer instead of the hole transporting layer. In particular, Steuber states that the only advantage of the spirobifluorene triarylamine derivatives over the simple triarylamine derivatives is the higher glass transition temperature. The applicant agrees with Steuber that the higher glass transition temperature is of importance for the use of the compound in the hole transporting layer as the compound is used in the hole transporting layer as pure material. In contrast, the glass transition temperature of the hole transporting compound is of only of minor importance for the mixture of the emitting layer, in particular in cases where the hole transporting compound is used only in a low percentage as shown in the examples of the present invention. In these cases, the stability of the layer is not determined by the glass transition temperature of the hole transporting compound.

There is therefore no obvious reason why the combination of a spirobifluorene hole transporting compound with an emitting compound as cited in claim 1 might result in a synergistic effect and therefore in particularly good results with respect to driving voltage and lifetime.

The person of ordinary skill in the art who is looking for further improvements over Aziz would never consider the disclosure of Steuber for the reasons given above as he would never have anticipated a technical effect when using a spirobifluorene derivative of triarylamine instead of a simple triarylamine. The person of ordinary skill in the art would therefore not have had any motivation to use the spirobifluorene derivative. There would not have been any motivation whatsoever for the person of ordinary skill in the art to combine Aziz with Steuber. For the above reasons, this rejection should be withdrawn.

A one month extension fee has been paid. Applicants believe no additional fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 14113-00048-US from which the undersigned is authorized to draw.

Dated: September 26, 2008

Respectfully submitted,

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